

CA9802 4 x 10 Gb/s Bit Error-Rate Tester

Technical Specifications V1.01

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 UC INSTRUMENTS CORP.

www.ucinstruments.com

CA9802 4 x 10 Gb/s Bit Error-Rate Tester

The UC INSTRUEMNTS CA9802 is a high performance, easy to use, all-in-one, costeffective, 4 x 10 Gb/s Bit Error-Rate Tester(BERT) for current 40 G TOSA/ROSA components R&D and manufacturing environments as well as field installations. The CA9802 incorporates an internal reference clock, a pattern generator, clock recovery circuits, and a BER analyzer, in one compact module that provides both electrical and optical interfaces at data rates up to 11.9Gb/s. The CA9802 is offered with an RS-232 or USB interface.

The PPRBS outputs optical NRZ waveform with bit rate within 9.9Gb/s to 11.09Gbps, with settable data pattern of 2^7-1 , $2^{31}-1$, and a fixed 64-bit user-defined pattern. The BERT system is controlled by external computer via a USB port, with full software support, drivers and programming guide for automation.

Features

- Bit rates from 9.9Gb/s to 11.09Gb/s
- PRBS PRBS : 2^7-1 , $2^{31}-1$; user defined pattern, and 64bit definable
- Pre-emphasis output signal functionality
- 4 CH PPG and 4 CH Error Detector were integrated in one compact mainframe
- Computer control via USB
- Cost effective solution for production

Applications

- Testing of optical transceiver modules (SFP+, XFP, X2, Xenpak, XPAK), transponders, linecards, and subsystems
- Testing of opto-electronic components and devices (TOSA, ROSA, lasers, etc...)
- Testing of Gb/s ICs, PCBs, electronic modules, subsystems, and systems
- Serial bus and high-speed backplane design
- Installation testing and troubleshooting in optical transport networks

Specification

Pattern Generator

Parameter	Min	Typ	Max	Units
Data Output (Electrical)				
Output Type	Differential			
Output Format	NRZ			
Termination	AC-Coupled			
Data Patterns	PRBS : 2^7-1 , $2^{31}-1$; user defined pattern			
Data Rates	<ul style="list-style-type: none"> • OC192 9.95328 Gb/s • 10GBE LAN 10.3125 Gb/s • OC192 with FEC 10.709225 Gb/s • 10GBE LAN with FEC 11.095727 Gb/s 			
Frequency Accuracy			± 50	ppm
Output Amplitude (Differential)	300		800	mV _{p-p}
Data Rise Time, (20 – 80%)		34		ps
Data Fall Time, (20 – 80%)		34		ps
Data Output RMS Jitter		2		ps
Connector	50ohm Nominal, SMA Female			
Trigger Output				
Output Amplitude	300			mV _{p-p}
Output Type	Single-ended , AC-coupled			
Connector	50ohm SMA Female			

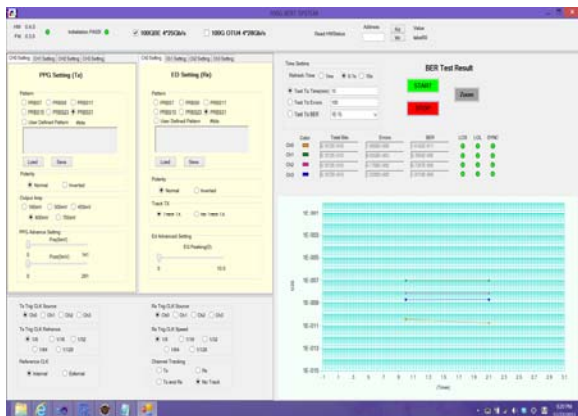
Error Analyzer

Parameter	Min	Typ	Max	Units
Data Input (Electrical)				
Input Type	Differential			
Termination	AC-Coupled			
Data Patterns	PRBS : 2^7-1 , $2^{31}-1$; user defined pattern			
Data Rates	Variable from 9.95Gb/s-11.4Gb/s			
Data Input Amp (Differential)	100		1000	mV p-p
Clocking Mode	Built-in clock recovery			
Pattern Synchronization	Automatic			
Connector	50ohm SMA Female			

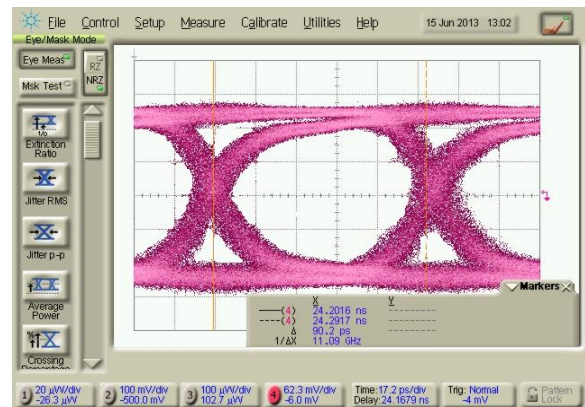
System & General Specifications

PARAMETER	MIN	MAX	UNIT
Chassis Electrical Voltage	100	240	VAC
Current Drain at Normal Voltage		2.5	A
Operating Temperature Range	5	45	°C
Storage Temperature Range	-40	70	°C
Dimensions (L x W x H)	300 x 240 x 64 12 x 9.5 x 2.5		mm ³ inch ³
PC Interface	USB		

Software Interface



Typical Performance



Accessories Included:

- User Software
- User Manual
- Power cord
- PC Interface cable

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